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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,506	10/01/2003	Robert A. DiChiara JR.	038190/262872	8545

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EXAMINER
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SALVATORE, LYNDIA

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 03/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/676,506

Applicant(s)

DICHIARA, ROBERT A.

Examiner

Lynda M. Salvatore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-27 is/are pending in the application.
- 4a) Of the above claim(s) 11-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-10, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment and accompanying remarks filed 01/06/06 have been fully considered and entered. Claims 1 and 6 have been amended, claim 6 has been canceled and new claims 26-27 have been added as requested. Applicant's amendment to claim 1 is found sufficient to overcome the claim rejections made over Waisala et al., as set forth in section 3 of the last Office Action. As such, these rejections are hereby withdrawn. However, Applicant's amendment necessitated the new ground of rejection set forth herein below.

### ***Claim Rejections - 35 USC § 102/103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-5,7,26 and 27 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over De Jager, US 5,439,627.

The patent issued to De Jager teaches a composite laminate comprising a mixture of aligned continuous and chopped ceramic filaments (column 1, 19-35, column 2, 50-55, column 3, 10-30, column 5, 25-35). De Jager teaches employing water-soluble methylcellulose binder to hold the filaments and/or particles together (column 5, 55-column 6, 25). With regard to claim 5, De Jager teaches alumina and alumina-borisilica (column 5, 25-35). With regard to claim 26, De Jager teaches multi-layer or stacked composites (column 3, 15-20 and column 7, 35-40). The Examiner considers the limitation of multi-layer and stacking sufficient to meet the limitation of providing two or more layers of ceramic fibers. With regard to claim 27, it is the position of the Examiner that a multi-layer or stack of sheets comprising a mixture of chopped and continuous

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glass fibers meets the limitation of a board comprising at least one layers of continuous fibers and at least one layer of chopped fibers since Applicant's open claim language of comprising does not limit each layer to only consisting of either chopped or continuous fibers. With regard to the limitation of "batting board" De Jager teach providing a shaped article from the composite laminate, which is suitable for a variety of high performance applications (column 9, column 10, 25). The Examiner considers a "shaped" material to inherently encompass a flat board shape since De Jager specifically teaches providing heat shields and airframes (column 9, 15-21).

With regard to the limitations pertaining to the reverse thermal gelation properties, although De Jager., does not specifically teach reverse thermal gelation it is reasonable to presume that said property is inherent to the binder taught by De Jager. Support for said presumption is found in the use of like materials such methylcellulose, which would result in the claimed reverse gelation properties. The burden is shifted to Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594

In addition, the presently claimed reverse thermal gelation properties would obviously have been present once the De Jager., product is provided. *In re Best*, 195 USPQ 433

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 8-10 are rejected under 35 U.S.C. 103(a) as obvious over De Jager, US 5,439,627.

With regard to claim 8-9, De Jager does not teach any density range, however, De Jager does teach that the composite can be engineered based on desired density, stiffness, strength, friction, hardness, toughness, wear resistance, or combination thereof (column 9, 42-46). As

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such, it is the position of the Examiner that it would be obvious to one having ordinary skill in the art to optimize the density as a function of desired end use. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233

With regard to claim 10, De Jager does not teach the claimed range of binder content, but does teach a binder content of 30% by volume in example 1 (column 10, 45-50). It would have been obvious to one having ordinary skill in the art at the time the invention was to optimize the amount of binder as a function of desired bond strength, toughness, and flexibility. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272,205 USPQ 215 (CCPA 1980).

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lynda M. Salvatore whose telephone number is 571-272-1482.


The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 13, 2006

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**ULA RUDDOCK**  
**PRIMARY EXAMINER**